

IN THE CLAIMS

1. (Currently amended) A data processing apparatus, programmed to execute a program of instructions wherein a conditionally executable instruction is selectively executed or not executed depending on at least one data value, the program being arranged to cause the processing apparatus to issue sequentially a first number of identical, conditionally executable, non-branching instructions for causing the processing apparatus to perform a second number of operations, each operation on a respective data-item, the first number being larger than the second number, the data processing apparatus selecting which one, or ones, of the issued conditionally executable instructions cause the operation or operations on ~~said data-items~~ a respective data-item to be performed, said selecting being dependent on ~~data processed by the apparatus~~ said data value.

2. A data processing apparatus according to claim 1, the conditionally executable instructions each having a first and a second operand, the first operand referring to a first storage location for storing the data-item on which the operation is to be performed, the second operand referring to a second storage location where a signal is stored that indicates whether the first storage location stores a newly valid data-item, said selecting being dependent on the signal.

3. A data processing apparatus according to claim 2, wherein the program contains further instructions, for storing the data-items and the signals for use by the conditionally executable instructions in the first and second storage locations respectively.

4. A data processing apparatus according to claim 3, comprising a functional unit for executing the further instructions, the functional unit generating each data-item together with the corresponding signal, the functional unit having outputs for writing the data-item and the signal to the first and second storage location respectively.

5. A data processing apparatus according to claim 1, the program comprising a program loop that is executed the first number of times, the program loop containing a copy of the

conditionally executable instruction, said copy being issued the first number of times during execution of the program loop.

6. A data processing apparatus according to claim 1, the program being arranged to cause the processing apparatus to issue further instructions each with an operand that refers to a storage location, the further instructions making sequential updates to a state represented by a content of said storage location, each conditionally executable instructions being completely executed when the state has a predetermined state value during execution of that conditionally executable instruction.

7. A data processing apparatus according to claim 4, comprising a functional unit that has an internal state, which is sequentially updated under control of the further instructions, the functional unit setting the signal dependent on whether or not the state has reached a predetermined state value.

8. (Withdrawn)

9. (Withdrawn)

10. (Currently amended) A method of using a data processing apparatus to execute operations or an operation wherein a conditionally executable instruction is selectively executed or not executed depending on at least one data value, each operation on a respective data-item, the method comprising sequentially issuing a first number of identical, conditionally executable, non-branching instructions; run-time selecting which one, or ones, of the issued conditionally executable instructions cause the operation or operations on ~~said data-items~~ a respective data-item to be performed, said selecting being dependent on ~~data-processed by the apparatus~~ said data value, whereby a second number, smaller than the first number, of operations is completely executed.

11. A method according to claim 10, wherein the conditionally executable instructions have a first and a second operand, the first operand referring to a first storage location for

storing the data-item on which the operation is to be performed, the second operand referring to a second storage location where a signal is stored that indicates whether the first storage location stores a newly valid data-item, said run-time selecting being dependent on the signal stored in the second storage location.

12. (Currently amended) A computer program product comprising a computer program for executing operations or an operation wherein a conditionally executable instruction is selectively executed or not executed depending on at least one data value, the program being arranged to cause a data processing apparatus to sequentially issue a first number of identical, conditionally executable, non-branching instructions; run-time select which one, or ones, of the issued conditionally executable instructions cause the operation or operations on ~~said data-items~~ a respective data-item to be performed, said selecting being dependent on ~~data processed by the apparatus~~ said data value, whereby a second number, smaller than the first number, of operations is completely executed.

13. A computer program product according to claim 12, wherein the conditionally executable instructions have a first and a second operand, the first operand referring to a first storage location for storing the data-item on which the operation is to be performed, the second operand referring to a second storage location where a signal is stored that indicates whether the first storage location stores a newly valid data-item, said run-time selecting being dependent on the signal stored in the second storage location.

14. A computer program product according to claim 12, comprising a program loop that contains a copy of the conditionally executable instruction, the program being arranged to cause the processing apparatus to issue the copy the first number of times during execution of the program loop.